

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave.St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027768**Date Inspected:** 13-Jun-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	Steve Jensen and William Sherwood			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b> <b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	SAS Tower	

**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 13W-W2.5 Y=0mm to Y=3000mm top deck drop-in plate inside, QA randomly observed ABF certified welder Mike Jimenez continuing to perform 4G (overhead position) Shielded Metal Arc Welding (SMAW) back welding cover pass on the CJP SPCM splice butt joint. The welder was utilizing 3.2mm diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040C-CU. The joint being welded had a single V-groove butt joint with copper plate backing bar that was originally welded from the top using a combination of SMAW and Submerged Arc Welding (SAW) then removed the copper backing plate using carbon air arc gouging and ground smooth. The plates were preheated to more than 150 degree Fahrenheit using Miller Proheat 35 Induction Heating System prior welding. Welding parameters were monitored by ABF/QC William Sherwood. QA noted the working welding parameters of 130 amperes on the 3.2mm diameter E7018H4R electrode. The workmanship and appearance of the completed cover pass deemed satisfactory. During the shift, cover pass welding on area mentioned above was completed and the welder has moved to another drop-in plate splice butt joint 13W-W2.1 @ 10100.

At OBG 13W-W2.1 @ 10100 Y=4300mm to Y=5500mm top deck drop-in plate inside, the same welder Mike Jimenez was observed perform 4G (overhead) position SMAW back welding cover pass on splice butt joint. The welder was noted using the same process and implementing the same Caltrans approved WPS as mentioned above. The welder continued 4G SMAW back welding the joint until the end of the shift but only completed partial length

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

---

of the splice weld joint. The overhead splice back welding will remain tomorrow.

At OBG 13E-PP122.5-E2.8-BF2 drop-in floor beam, QA randomly observed ABF certified welder Steve Davies perform 1G (flat position) Shielded Metal Arc Welding (SMAW) welding root pass to fill pass on the CJP flange splice butt joint. The welder was utilizing 3.2mm diameter E7018H4R on the root and fill pass implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040A. The joint being welded has a single V with 45 degree inclusive angle butt joint that has the top of a vertical plate right below the V groove that serves as the backing bar. The plates were preheated to more than 150 degree Fahrenheit using propylene gas torch prior welding. Welding parameters were monitored by ABF/QC William Sherwood. QA noted the welding working parameter of 129 amperes on the 3.2 diameter E7018H4R electrode. The workmanship and appearance of the completed fill pass deemed satisfactory. At the end of the shift, SMAW fill pass welding on the splice butt joint mentioned above was still continuing and should remain tomorrow.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the 5mm all around fillet weld on Crosby padeye size #4. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

1. Tower elev. 43 meter – Crosby padeye to tower skin plate 5mm all around fillet weld QA verified.
2. Tower elev. 38 meter – Crosby padeye to tower skin plate 5mm all around fillet weld QA verified.

FW Spencer:

At location Panel Point PP99 of OBG grid line E5, this QA randomly observed FW Spencer qualified welder Damian Llanos perform Complete Joint Penetration (CJP) 6G (all position) Shielded Metal Arc Welding (SMAW) welding root pass to cover pass on the field splice butt joint of 2.5" domestic water line at panel point location PP99 to PP103. The system line being welded is field weld joints along the grid line of W5 of the OBG. The welder was noted welding the root pass with 3/32" diameter E6010 electrode and followed by fill pass to cover pass using 3/32" diameter E7018H4R electrode implementing Caltrans approved procedure FW Spencer WPS 1-12-1. The welder was noted preheating and removing the moisture of the joint using a portable gas torch prior welding. During welding, ABF QC Steve Jensen was noted monitoring the parameters of the welder. At the end of the shift, the welder has completed the following splice butt joints;

Line Service Line/Pipe Size Panel Point Location Joint Designation

1. Domestic Water 2 ½" 99 Northeast 32/2.5/99/NE
2. Domestic Water 2 ½" 101 Northeast 33/2.5/101/NE
3. Domestic Water 2 ½" 103 Northeast 34/2.5/103/NE

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )



## Summary of Conversations:

No significant conversation occurred today.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

**Reviewed By:** Levell, Bill

QA Reviewer